

ABSTRACT

A real-time thermal management apparatus and method for a computer employs a monitor (40) to determine whether a CPU may rest based upon real-time sampling of temperature levels and CPU activity levels within the computer. The monitor activates a hardware selector to carry out the monitor's determination. If the monitor determines the CPU may rest, the hardware selector reduces CPU clock time; if the CPU is to be active, the hardware selector returns the CPU to its previous high speed clock level. Switching back into full operation from its rest state occurs without a user having to request it and without any delay in the operation of the computer while waiting for the computer to return to a "ready" state. Furthermore, the monitor (40) adjusts the performance level of the computer in response to the real-time sampling of CPU activity and temperature levels. Such adjustments are accomplished within the CPU cycles and do not affect the user's perception of performance and do not affect any system application software executing on the computer.